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CLAIM AMENDMENTS:

Claims 1-21 (cancelled)

22. (new) A method for disinfecting a microtome cryostat, the cryostat having a closed cryostat chamber, the method comprising the steps of:

- a) subjecting the cryostat to a defrosting phase;
- b) introducing a vaporous disinfectant into the closed cryostat chamber;
- c) waiting an effective time for action of the disinfectant;
- d) generating a temperature difference in the cryostat chamber following step c); and
- e) discharging disinfectant deposited in a colder region of the cryostat chamber in response to step d).

23. (new) The method of claim 22, wherein, following step c), a temperature of a cryostat refrigerator is reduced to below 0°C in a cooling phase until at least a majority of disinfectant has deposited on the refrigerator, the refrigerator being subsequently thawed to discharge the disinfectant from the cryostat chamber with the assistance of a collecting device.

24. (new) The method of claim 22, wherein the microtome is heated after step c).

25. (new) The method of claim 24, wherein a heating temperature clearly exceeds a surrounding temperature of the cryostat.

26. (new) The method of claim 22, wherein the vaporous disinfectant is blown into the cryostat chamber.
27. (new) The method of claim 22, wherein the disinfectant is evaporated using ultrasound.
28. (new) The method of claim 22, wherein the cryostat is heated to at least a surrounding temperature following step a).
29. (new) The method of claim 28, wherein a heating period is followed by a temperature balancing time.
30. (new) The method of claim 28, wherein heating is effected using a microtome heater.
31. (new) The method of claim 22, wherein cutting waste is mechanically removed prior to step b).
32. (new) The method of claim 31, wherein the cutting waste is suctioned off.
33. (new) The method of claim 22, wherein the vaporous disinfectant is suctioned into a suction system to also disinfect same.
34. (new) A device for disinfecting a microtome cryostat, the device comprising:
 - means for subjecting a closed cryostat chamber to a defrosting phase;
 - means for introducing a vaporous disinfectant into said closed cryostat chamber;

means for waiting an effective time for action of the disinfectant;
means for generating a temperature difference in said cryostat chamber; and
means for discharging disinfectant deposited in a colder region of said cryostat chamber.

35. (new) The device of claim 34, the device comprising a microtome in said cryostat chamber, a refrigerator, and a control communicating with said disinfectant introduction means and with said effective time waiting means, wherein said control also generates said temperature difference in said cryostat chamber through heating and/or cooling, wherein a collecting device is disposed in a colder region to remove deposited disinfectant.
36. (new) The device of claim 35, wherein said control is designed to reduce a temperature of said refrigerator of the cryostat in a cooling phase to below 0°C after said effective time until at least a majority of disinfectant has deposited on said refrigerator, said refrigerator being subsequently thawed to discharge disinfectant from said cryostat chamber using said collecting device.
37. (new) The device of claim 35, wherein said microtome has a heater and said control is designed to heat said microtome after said effective time.
38. (new) The device of claim 35, wherein said refrigerator comprises a heater and said control is designed to switch on said heater to accelerate thawing.

39. (new) The device of claim 35, wherein said means for introducing a vaporous disinfectant comprises a blower for introducing the disinfectant into said cryostat chamber.
40. (new) The device of claim 35, wherein said disinfectant introduction means comprises means for vaporizing the disinfectant using ultrasound.
41. (new) The device of claim 35, wherein said disinfectant introduction means comprises a disinfectant supply container.
42. (new) The device of claim 41, further comprising a valve for controlling a disinfectant level.
43. (new) The device of claim 35, wherein said collecting device discharges liquid, dripping from said refrigerator, out of said cryostat chamber via an outlet.